

DOCUMENT RESUME

ED 374 288

CE 067 226

TITLE Finding the Main Idea. Electrical & Instrumentation.

INSTITUTION Associated Builders and Contractors, Inc., Baton Rouge, LA. Pelican Chapter.; East Baton Rouge Parish School Board, La.; Greater Baton Rouge Chamber of Commerce, LA.

SPONS AGENCY Office of Vocational and Adult Education (ED), Washington, DC. National Workplace Literacy Program.

PUB DATE [92]

CONTRACT V198A10155

NOTE 41p.; For documents related to this project, see CE 067 219-251.

PUB TYPE Guides - Classroom Use - Instructional Materials (For Learner) (051) -- Tests/Evaluation Instruments (160)

EDRS PRICE MF01/PC02 Plus Postage.

DESCRIPTORS Adult Basic Education; Adult Literacy; Basic Skills; Behavioral Objectives; Competency Based Education; Content Area Reading; *Electrical Occupations; Individualized Instruction; *Instrumentation Technicians; Learning Activities; Lesson Plans; *Literacy Education; *Reading Comprehension; *Reading Skills; Technical Education

IDENTIFIERS *ABCs of Construction Project; *Main Idea; Workplace Literacy

ABSTRACT

Developed by the ABCs of Construction National Workplace Literacy Project, these curriculum materials for the area of electrical and instrumentation contain two lessons that deal with finding the main idea. Each lesson consists of an objective, instruction, and exercises. Lesson 1 contains nine exercises, and Lesson 2 has four. The objectives for the two lessons are for the student to be able to find main ideas in paragraphs and passages and for the student to be able to recognize sequence and comparison-contrast paragraph and passage construction. (YLB)

* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *

ED 374 288

TECHNICAL DEVELOPMENT CENTER

Finding The Main Idea

ELECTRICAL & INSTRUMENTATION

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

- ☒ This document has been reproduced as received from the person or organization originating it
- ☐ Minor changes have been made to improve reproduction quality
- Points of view or opinions stated in this document do not necessarily represent official OERI position or policy

BEST COPY AVAILABLE

Associated Builders & Contractors, Inc.
EBR Adult & Continuing Education

ABC's of Construction
National Demonstration Project in Workforce Literacy

The ABC's of Construction Project was funded in 1991 by the U.S. Department of Education as a grantee through the National Workplace Literacy Program (PR #198A10155). The program provided basic skills instruction to industrial construction workers employed by companies which are members of the Pelican Chapter of Associated Builders and Contractors (ABC). Located in Baton Rouge, Louisiana, ABC provides training to employees of over 60 member companies who perform contract work in the 58 petrochemical facilities located along the Mississippi River between Baton Rouge and New Orleans.

The grantee, the Adult Education Department of East Baton Rouge School Board, performed a comprehensive literacy task analysis of the apprenticeship training program for millwrights, pipefitters, electricians, instrumentation techs, and welders involved in the ABC training program. Over 20 modules of original, contextual curriculum were developed to teach the reading and math skills required for success in the craft training program.

Materials developed for instruction incorporated cognitive strategies for learning basic skills in the context of the craft and safety knowledge demanded by the industrial construction workplace. Instruction was written for a competency-based, open-entry/open-exit, individualized adult learning program that operated at the ABC training center in the evenings after work-hours.

By the end of this lesson, you will be able to find main ideas in paragraphs and passages.

OBJECTIVE

Consider the topic hamburger. What is a hamburger? The meat and bread are all that's needed for a hamburger to be. They are its main idea. They might vary slightly. But they are essential to the sandwich's meaning. The trimmings—cheese, tomatoes, lettuce—form the details of the hamburger. They provide flavor. But they are not an essential part of the sandwich.

INSTRUCTION

Now consider the following list of items:

Safety Precautions
Safety Equipment
Insulating Boots
Hot Sticks
Safety Ropes

On the top of the list are the words Safety Precautions. Second you see the words Safety Equipment. Underneath, you find the words Insulating Boots, Hot Sticks, and Safety Ropes. Safety precautions is the general topic of this list. This item is the broadest category of the five items. Safety equipment is the second broadest category in the list. All the other words in the list are different kinds of safety equipment. Thus, safety equipment is the main idea for this list of items. This is because safety equipment is the one item that tells about all the other words. Insulating boots, hot sticks, and safety ropes are the supporting details. They are types of safety equipment.

Similarly, a paragraph and passage consists of a topic, main idea, and details. Its topic concerns a broad general subject. Its main idea is the essential elements. They define the topic. The main idea tells the key concept. Details limit or describe the main idea. Pictures, conversations, movies, commercials, passages and paragraphs all contain topics, main ideas, and details.

Details support the main idea by telling how, when, how much, how many, why, or what kind. Details give information about one topic. They relate to each other in some way. Locating the topic, main idea, and details helps you understand the writer's point. Finding them increases your understanding.

Authors sometimes place main ideas in topic sentences. These sentences are often the first or last sentence of the paragraph. However, authors can place them anywhere or nowhere at all. Even if the main idea is stated, you need to find it for yourself. The steps for doing so follow:

1. Read the paragraph.
2. Ask yourself "What is the one thing this paragraph is about?" This is the topic.
3. Look for details that point to or support the topic. What thought is being stated? This is the main idea.
4. Think of a sentence that summarizes this idea.
5. Look for a sentence that says this key concept. If you see one, underline it. If you do not, write your main idea statement in the margin beside the paragraph.

For example, consider the two paragraphs below:

Rigid steel conduit is made in three types: white (galvanized), black (enameled), and green (sheradized). Each type has a specific purpose. The white galvanized conduit is the type to be used where exposed to the weather, when embedded in concrete, or when installed in wet locations. The black conduit, which is coated with black enamel, is the type commonly used for general interior wiring. The green (sheradized) conduit has a special corrosion-resistant coating. Except for special conditions no size smaller than 1/2 is allowed.

The use of rigid aluminum conduit has gained wide acceptance because of its light weight, excellent grounding conductivity, ease of threading, bending, and installation, resistance to corrosion, and low losses for installed ac circuits. Installations of rigid aluminum conduit require no maintenance, painting, or protective treatment in most applications. Because of its high resistance to corrosion, this conduit should be used in many severely corrosive industrial environments such as sewerage plants, water treatment stations, filtration plants, many chemical plants, and installations around salt water.

The main topic of the first paragraph is rigid conduit steel. The third, fourth, and fifth sentences name the kinds of conduit. They also talk about the use of each. The main idea of this paragraph is that each kind of rigid conduit steel has a purpose. The second sentence says this exactly. Thus, this paragraph has a stated main idea.

The main idea of the second paragraph is that rigid conduit is a widely used, versatile, and uncostly material. The sentences which support this are the first, second, and third sentences support this. Since none of the sentences state the key concept. The second paragraph has an unstated main idea.



Exercise

Dave's foreman wants him to take a first aid course. Dave wonders why this is necessary. His foreman explains about first aid regulations. He suggests Dave do further reading in his text.

Accident procedures should be known to everyone on the job site and posted in visible locations around the plant, machinery, and vehicles. It is also a very good idea to take a course from the Red Cross or a similar organization dealing with artificial respiration or cardiopulmonary resuscitation (CPR). These courses will usually range from eight to ten hours in length. It is a requirement that at least one person, on a job employing two or more people, must have taken a first-aid safety course.

1. In your own words, write the main idea of this paragraph.
How did you find the main idea?

2. Is this main idea stated or unstated? How do you know? If stated, identify the sentence which states it.

3. Why is there a requirement that at least one person on a job employing two or more people know first-aid?

Exercise

Mark once saw a man killed on the job. He cautions everyone he works with about using both hands at the same time. Gwen, his usual helper, sees no reason to let Mark's panic bother her. Finally, Mark brings in this information. He asks Gwen to read it.

It is dangerous to work with both hands simultaneously. If current is allowed to pass through the body in this situation, it would pass directly through the heart. Even though the current value may be fairly small, it may be sufficient to cause the heart to go into ventricular fibrillation. When this occurs, the heart will contract spasmodically. Since blood does not circulate under this condition, the result is a lack of oxygen to the brain, with brain damage or death quickly following. It is also worth noting that the white blood cells may become damaged if subjected to low-voltage high-current conditions. If the individual has damaged a large enough number of white blood cells, a blood transfusion may be required.

1. In your own words, write the main idea of this paragraph. How did you identify the main idea?

2. Is this main idea stated or unstated? How do you know? If stated, identify the sentence which states it.

3. What does simultaneously mean in the first sentence? How do you know?

4. What does blood carry to the brain?

Exercise

Mark is also concerned that some of Gwen's tools are not insulated. So he has her read the following information as well.

Hand tools must be insulated. For example, a screwdriver will normally have the metal blade extend deep into the handle. If the handle is wood, the amount of resistive material between the blade and your hand will not be sufficient, under certain circumstances, to prevent an electrical shock. Other hand tools such as pliers should also have handles with sufficient insulative qualities.

1. In your own words, write the main idea of this paragraph. How did you find this main idea?

2. Is this main idea stated or unstated? How do you know? If stated, identify the sentence which states it.

3. What does sufficient mean in the third sentence? How do you know?

The only raceway Lisa knows about is the one at the Indy 500. She's confused when her boyfriend says he's working with flexible raceways. He gives her the following to read.

Flexible raceways are exactly what the name implies. They can be bent by hand to conform to most any configuration. This type of raceway includes Flexible Metal Conduit, Liquidtight Flexible Metal Conduit, Flexible Metallic Tubing, and Liquidtight Flexible Nonmetallic Conduit. These are generally used in short lengths (6 ft. and under) to provide for general flexibility and vibration dampening with special connectors for attachment. However, long lengths may be used for reasons of flexibility and inaccessibility provided that grounding provisions per code are adhered to.

1. In your own words, write the main idea of this paragraph. How did you find this main idea?

2. Is this main idea stated or unstated? If stated, identify the sentence which states it. How do you know?

3. Why might using long lengths of the material be a code violation?

Exercise

Ronald hates to wear suspenders. He wonders if there is a tool pouch made that he can hang on his belt. He goes to his text for more information.

Usually made from leather, tool pouches have a pocket divided into numerous compartments. The tool pouch is designed to be worn either with a belt or with suspenders and a belt. It is worn to carry tools used on a regular basis in the normal work routine. Tool pouches normally have straps and devices on the outside to support additional tools. Tool pouches are available in numerous designs for particular applications. It is up to you to determine the particular design which best supports the work you do. An additional pouch is often worn for carrying parts such as wire nuts, staples, couplings, box connectors, screws, anchors, and a multitude of other items.

1. In your own words, write the main idea of this paragraph.
How do you know this is the main idea?

2. Is this main idea stated or unstated? If stated, identify the sentence which states it. How do you know?

3. What does multitude mean in the last sentence? How do you know?

4. Why might someone need to wear both suspenders and a belt to hold up a tool belt?

Exercise

Barbara is wiring a light switch. She uses a slotted screwdriver to scrape the insulating plastic from the wire. Henry sees her. He suggests she read the following information.

When using a slotted screwdriver, ensure that the tip does not extend beyond the edge of the screw and that the tip fills the slot of the screw. Never use the screwdriver as a scraper, pry bar, or chisel. Care should be taken when dressing the top of a slotted head screwdriver. If a grinder is used, the tip should not be allowed to get too hot ("too hot" means hot to the touch). If the tip gets too hot, the tool loses its temper and becomes soft. When using a grinder to dress a screwdriver, apply only light pressure and for very short periods of time.

1. In your own words, write the main idea of this paragraph. How do you know this is the main idea?

2. Is this main idea stated or unstated? How do you know? If stated, identify the sentence which states it.

3. What does temper mean in the next-to-the-last sentence? How do you know?

4. How could you keep a screwdriver from becoming "too hot" while grinding it?

Nathan has heard that the term ohm comes from someone's name. He is interested when he finds more about this in his text.

Ohm attempted to liken current in a conductor to water flow in a pipe. This comparison showed that voltage drop in a long conductor was similar to pressure drop in a long water pipe. Ohm's colleagues believed him to have over-simplified what they considered to be complicated and mysterious. Ohm was forced to resign his professorship and live in obscurity. Fourteen years after resigning his professorship, Ohm's peers were finally able to accept his theory. The unit of measure called the ohm is named in his honor.

1. In your own words, write the main idea of this paragraph. What tells you this is the main idea?

2. Is this main idea stated or unstated? How do you know? If stated, identify the sentence which states it.

3. Why were Ohm's colleagues so upset about his theories?

4. In the next-to-the-last sentence of this paragraph, there is a word that means the same as colleagues. What is this word? What do both of these mean? How do you know this?

5. Ohm compared the voltage drop in a long conductor to the pressure drop in a long water pipe. Think of another example.

Exercise

Loretta needs to install a switchboard in a local chemical plant. She wonders what kind of material she will be working with. Her book offers this information.

Materials employed for the panels of switchboards are slate, marble, ebony-asbestos, and steel. At one time, slate was the material principally used for switchboard panels, but it has been almost entirely replaced by ebony-asbestos for live-front boards and by steel for its higher insulation qualities over slate but more often for its better appearance.

1. In your own words, write the main idea of this paragraph.
How did you find this main idea?

2. Is this main idea stated or unstated? How did you know? If stated, identify the sentence which states it.

3. Name one characteristic that slate, marble, ebony-asbestos, and steel have in common.

4. Which of the following is indicated as being the most attractive: slate, marble, ebony-asbestos, or steel?

5. What color do you think ebony-asbestos might be? How do you know?

Exercise

Marty is installing two incandescent lamps. He is putting one on each of two generators. They will light up when the generators are synchronized. Before he begins work, he consults his handbook for more information.

Two or more ac generators will not operate satisfactorily in parallel unless (1) their voltages, as registered by a voltmeter, are the same, (2) their frequencies are the same, and (3) their voltages are in phase. If the machines are not in phase, even if their indicated voltages and their frequencies are the same, the voltage of one will, at given instants, be different from that of the other and there will be an interchange of current between the machines. When two or more generators all satisfy the three listed requirements, they are in synchronism. Synchronizing is the operation of getting machines in synchronism.

1. In your own words, write the main idea of this paragraph.
How did you find the main idea?

2. Is this main idea stated or unstated? How do you know? If stated, identify the sentence which states it.

3. What does synchronizing mean in the last sentence? What words tell you this?

4. List the three factors which must be satisfied for two or more generators to be synchronized.

By the end of this lesson, you will be able to recognize sequence and comparison-contrast paragraph and passage structure.

OBJECTIVE

INSTRUCTION

The first time Morgan put in a light switch it took him over an hour. He's been an electrician for over an year now. Today, he can install a light switch in less than 10 minutes. What accounts for the difference?

Morgan has put in many light switches over the past year. He has found a system for putting one in. This pattern doesn't change much. He knows what tools he'll need for the job. He knows what steps he'll take. He knows the order he'll take them. He knows what the end result should look like. Morgan's pattern enables him to do his work quickly and easily.

Paragraphs and passages have patterns, too. Their patterns are more commonly known as text structure. The text structure shows how main ideas and details relate to each other. They show the organizational plans. Finding these plans helps you locate main ideas quickly. It also helps you recall information more easily.

There are several types of text structure patterns. However, your text mainly uses only two: (1) sequence and (2) comparison/ contrast.

In sequence text structure, major points or steps are listed. You may not be told at first how many points or steps there are. Instead, words such as first, second, third, then, next, and finally signal the number and order of points or steps. Sometimes these words are not actually stated. Instead, the author wants you to find the order for yourself. For example, consider the paragraph below.

To adjust low gravity, first have ready sulfuric acid of specific gravity between 1.265 and 1.300, sufficiently pure for storage-battery use. Add this instead of water when restoring level until the gravity at the end of an equalizing charge is normal. Then stop adding acid and return to the use of water. A quicker method, but one requiring more work and acid, is to withdraw some of the low-gravity electrolyte from the cell and at once replace it with this new electrolyte. Do not allow a cell to stand partly empty. The amount to withdraw will have to be determined by trail, as it depends upon the gravities of both the old and the new electrolyte. Charge until all cells have been gassing for 1 h. Then, if the gravity is not normal, repeat adjustment until it is.

The main idea of this paragraph is two ways to adjust low gravity. This main idea is implied. You find the order of the steps in both processes. Only one signal word is used. Then appears twice. The sequence for the above paragraph would look like this:

METHOD ONE

1. Have ready sulfuric acid of specific gravity between 1.265 and 1.300, sufficiently pure for storage-battery use.
2. Add this (instead of water) until the gravity at the end of an equalizing charge is normal. Now stop adding acid.
3. Now add water again.

METHOD TWO

1. Withdraw some of the low-gravity electrolyte from the cell.
2. At once replace it with new electrolyte. Do not allow a cell to stand partly empty.
3. The amount you withdraw will have to be determined by trial, as it depends upon the gravities of both the old and the new electrolyte.
4. Charge until all cells have been gassing for 1 h.
5. Check to see if the gravity is normal. If not, repeat adjustment until it is.

To find sequence text structure, you look first for the overall main idea, procedure, or problem. Then you find the total number of points or steps and any signal words.

The next step is to look for the relationship among the items or the steps. Then you list these items or steps so that you can easily follow them.

Comparison/contrast text structure shows relationships between two or more items. Comparisons show how they are alike. Contrasts show how they are different. Signal words sometimes within the paragraphs or passages show if likenesses or differences are shown. Comparison signal words include similarly, both, as well as, likewise, and in like manner. Contrasts signal words include however, on the other hand, on the contrary, but, instead of, although, yet, nevertheless, and alternative. Often, however, these words are omitted. Then you must find the structure for yourself.

For example, consider the paragraph below.

Lead-acid storage batteries may be roughly divided into three groups, depending upon the class of service for which they are intended. Those for automobile starting, lighting, and ignition work consist of cells assembled in a single hard-rubber container. Those for electric-vehicle applications consist of ironclad-type cells assembled in a suitable container. Those for stationary service consist of cells enclosed in glass jars.

To use comparison/contrast text structure, you see how items are related. You determine if they are alike or different. This tells you the main idea of the paragraph. Sometimes signal words are present to help you. Sometimes they are not. Your next step is to organize the details of the paragraph so that you can recall them. One way to do this is to make a chart. You do this by completing the following:

1. Make a vertical list of the items you wish to compare/contrast.
2. List horizontally the features you want to know about each item.
3. Draw a grid by sketching lines between each element and each factor.
4. Locate and record the information which fills each box of the grid.

Consider again the paragraph describing types of lead-acid storage batteries. The following chart shows the information from it.

DESCRIPTION OF BATTERY	PURPOSE OF BATTERY
Cells, assembled in a single hard-rubber container.	Automobile starting, lighting, and ignition.
Iron-clad type cells assembled in a suitable container.	Electric-vehicle applications.
Cells enclosed in glass jars.	Stationary service.

Exercise

Jacob is installing cable in a chemical plant. The flow through the cable will be very hot. Thus, he is using insulated cable. He decides to check the types of joints he might use before beginning work.

There are two methods of making joints or connections for insulated cables: by means of soldered connections and by means of solderless connection devices. Soldered connections were formerly the accepted standard, but solderless splicing devices and connectors have gained wide favor for low-voltage work. The use of such devices materially reduces the time required for the making of splices and terminal lug connections. Moreover, if the device is of good design, in addition to the mechanical strength of the connection being fully as great as that of a good soldered connection, the solderless connection has the advantage that the electrical contact will not fail under short circuits or continuous overloads due to the melting of solder.

1. What is the main idea of this paragraph? How do you know?

2. Is its main idea stated or unstated? How do you know? If stated, identify the sentence which says the main idea.

3. Write it in your own words.

4. What type of pattern does this paragraph show? How do you know?
Are there any signal words? If so, write them below.

5. Complete the following chart.

TYPES OF CONNECTIONS	ADVANTAGES	DISADVANTAGES

Christopher has just been hired. His new job is to receive, log, and check equipment that comes in. He wants to do a good job. So he looks in his handbook to find out how to receive and check equipment. This is what he finds about transformers.

Transformers are in first-class operating condition when shipped by the manufacturer; i.e., they have been thoroughly tested for defects and are perfectly dry. When received, they should be examined before removing the shipment, and if any injury is evident or any indication of rough handling is visible, a claim should be filed at once and the manufacturer notified.

Moisture may condense on any metal if the metal is colder than the air, and if present, it lowers the dielectric strength and may cause a failure of the transformer. Therefore, if transformers or oil drums are brought into a room warmer than they are, they should be allowed to stand before opening until there is no condensation on the outside and they are thoroughly dry.

Before installation, each individual transformer should be thoroughly examined for indications of moisture and inspected for breakage, injury, or displacement of parts during shipment. In addition, all accessible nuts, bolts, and studs should be tightened if necessary. Before being placed in service, transformers having a plurality of voltage connections should be carefully checked to ensure that they are connected for operation at the required voltage and on the proper tap.

It is standard practice to ship transformers connected for their maximum voltage.

If transformers are water-cooled, the cooling coils should be tested for leaks at a pressure of 80 to 100 psi. Water, oil, or preferably air may be used in the coil for obtaining the pressure. The coil must be outside the tank, i.e., away from the winding insulation, if water is used for the pressure test. When pressure is obtained, the supply should be disconnected, and after 1 h it should be determined whether any fall in the pressure is due to a leak in the coil or to a leak in the fittings at the ends of the coil.

1. What is the main idea of the first paragraph? Which words tell you this?

2. Is its main idea stated or unstated? How do you know? If stated, identify the sentence which says the main idea.

3. Write it in your own words.

4. What is the main idea of the second paragraph? Which words tell you this?

5. Is it stated or unstated? How do you know? If stated, identify the sentence which says it.

6. Write the main idea in your own words.

7. What is the main idea of the third paragraph? Which words tell you this?

8. Is it stated or unstated? How do you know? If stated, identify the sentence which says it.

9. Write the main idea in your own words.

10. What is the main idea of the fifth paragraph? Which words tell you this?

11. Is it stated or unstated? How do you know? If stated, identify the sentence which says it.

12. Write the main idea in your own words.

13. What pattern of organization is found in the first, second, third, and fifth paragraphs? How do you know? What, then, is the overall pattern of organization for this passage?

14. List the steps that should be taken to inspect transformers before installing them.

15. Reread the paragraph that begins "Moisture may condense...." What causes condensation to form?

16. Reread the last paragraph. What does "1 h" stand for? How do you know?

17. Reread the third paragraph. Define each of the following terms in your own words.

a. displacement _____

b. accessible _____

c. plurality _____

d. ensure _____

Exercise

Mark is putting in a telephone line. It will go from the plant to a storage silo. He needs to get the right supplies from the supply shed. Before he goes there, he looks in his text for information about copper wire.

Copper wire is made in three grades of hardness, known as hard-drawn, medium hard-drawn, and soft or annealed. Hard-drawn wire has the greatest tensile strength and the least amount of elongation under stress and is the stiffest and hardest to bend and work. Soft-drawn or annealed wire has the lowest tensile strength and the greatest elongation under stress is very pliable and easily bent. Medium-hard-drawn wire has characteristics intermediate between those of hard-drawn and soft-drawn wire. The conductivity of copper wires decreases slightly as hardness increases, but there is relatively little difference in the conductivity of the different grades.

Hard-drawn wire is used for long-span transmission lines, trolley contact wires, telephone wires, and other applications for which the highest possible tensile strength is desirable.

Medium-hard-drawn wire is employed for such applications as short-span distribution circuits and trolley feeders, for which slightly lower tensile strength is satisfactory and greater pliability is desired.

Soft-drawn or annealed copper is used for all covered or insulated copper conductors except weatherproof covered cables. Wires with this covering are available in all the three grades of hardness. Bare or weatherproof covered soft wire is used only for short spans.

Copper wire used for rubber-insulated cable must be tinned by coating with pure tin to protect the copper against chemical action caused by contact with the rubber.

1. What is the main idea of the first paragraph? Which words tell you this?

2. Is its main idea stated or unstated? How do you know? If stated, identify the sentence which says the main idea.

3. Write it in your own words.

4. What is the main idea of the second paragraph? Which words tell you this?

5. Is it stated or unstated? How do you know? If stated, identify the sentence which says it.

6. Write the main idea in your own words. Which words tell you this?

7. What is the main idea of the third paragraph? Which words tell you this?

8. Is it stated or unstated? How do you know? If stated, identify the sentence which says it.

9. Write the main idea in your own words.

10. What is the main idea of the fourth paragraph? Which words tell you 'his'?

11. Is it stated or unstated? How do you know? If stated, identify the sentence which says it.

12. Write the main idea in your own words.

13. What is the main idea of the fifth paragraph? Which words tell you this?

14. Is it stated or unstated? How do you know? If stated, identify the sentence which says it.

15. Write the main idea in your own words.

16. What type of pattern do these paragraphs show? How do you know?
Are there any signal words? If so, write them below.

17. What are the three grades of hardness?

18. What characteristics of wire are described?

19. List the grades down the side of the following lines. List the characteristics across the top of the lines. Draw a grid among these. Complete the grid using information in the text.

Suddenly it seems every battery in the plant is going bad. Kyle's foreman sends Kyle to check on them. Kyle reviews the following before going out.

If a battery seems to be in trouble, the first thing to do is to give it an equalizing charge. Then take a gravity reading of each cell. If all cells gas evenly on the equalizing charge and the gravity of them all goes above a certain value as specified by the manufacturer, then all the battery needed was the charge. Before making an adjustment, determine whether the jar is cracked by adding water to the proper height and allowing the cell or jar to stand several hours, noting whether level falls.

If a jar is cracked, change it. Never make a gravity adjustment on a cell which does not gas. If a cell will not gas on the equalizing charge, investigate for impurities or inspect it for short circuits. For the latter, remove the elements from the jar and examine the separators carefully to make sure that none is broken or damaged, thus causing a short circuit. Also examine plates to see that they are in good condition, and note the height of sediment in the bottom of the jar. Remove any collection of "moss" on the top or edges of the plates. Handle elements very carefully so that plates will not be broken from the straps. Replace damaged separators.

1. What is the main idea of the first paragraph? Which words tell you this?

2. Is its main idea stated or unstated? How do you know? If stated, identify the sentence which says the main idea.

3. Write it in your own words.

4. What type of pattern does this paragraph show? How do you know?
Are there any signal words? If so, write them below.

5. List the steps in finding trouble in a battery.

41

41